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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
Division of Forest Insect Investigations

ANNUAL REPORT OF FOREST INSECT CONTROL IN THE MT. LAGUNA INFESTATION AREA, CLEVELAND NATIONAL FOREST FISCAL YEAR 1953

The Mt. Laguna infestation area is located in the Laguna Mountains, some 50 miles east of San Diego, in T. 14 & 15S and R. 5E, SBM.

The perplexities of managing the timber in this recreational area have consumed much of the time of the personnel concerned with the administration of these lands. Not the least of the major problems down through the years has been the continual loss of trees due to the activities of various insects, notably the California flatheaded borer and the western pine beetle.

Since 1924 insect control in one form or another has been carried on intermittently with varying degrees of success. At only one period during these years was a complete job attempted on the two major forest insects in the area. That occurred in 1941 when 4,132 trees were treated on 11,000 acres by the use of CCC labor. Since 1949 insect control has been limited to treatment of trees infested with western pine beetle broods only[1/].

Insect and Host Species

This is an area of flat, rolling forested land which drops off steeply to the desert on the east, and into brush on the west. The timbered area of the mountain varies but little in elevation throughout, and is therefore easily accessible.

The major tree species is Jeffrey pine followed by Coulter pine which takes in approximately 1500 acres at the north end of the mountain.

Host and major insect species are as follows:

Coulter pine - western pine beetle, Dendroctonus brevicomis Lec.; and the California five-spined engraver, Ips confusus (Lec.)

Jeffrey pine - California flatheaded borer, Melanophila californica Van Dyke; and the California five-spined engraver, Ips confusus (Lec.)

1/ For further information see: Forest Insect Problems in the Mount Laguna Area - Cleveland National Forest, mimeographed report, by Ralph C. Hall, Forest Insect Laboratory, March 3, 1953.

The Infestation

This area is at best a marginal growing site for timber and when combined with the persistent drought conditions of the past seven or eight years there has occurred a constant increase in insect populations. Epidemic losses have been occurring in both the Jeffrey pine and Coulter pine primarily as a result of the aforementioned insect species. However, Coulter pine losses have been reduced substantially within the past couple of years because of the fine job of insect control which has been carried on against the western pine beetle. Unfortunately, no program of control has been attempted on the flathead problem for several years now, and heavy losses continue to occur. A new look at this situation is needed and definite recommendations made, and a clear-cut policy of control, whether it be direct or indirect, established.

The Control Operation

The 1952-53 control was limited to treatment of currently infested Coulter pine only, as has been the case for several years now.

The project being entirely on federal lands was financed out of federal funds and administered by the U. S. Forest Service. No infested trees were found on the private land within the control boundaries. Raymond Rice was in charge of the operation, assisted by a crew of from two to four men.

Control operations began in July when a few summer fades were picked up. Again in September a short control operation took place as late summer fades were spotted and treated. However, it was not until mid-December that a concerted effort was made to spot the area completely and attempt to attain 100 percent control. From mid-December to April spotting and treating continued intermittently as new fades showed up and money was made available. For a month during February and March the project was financially embarrassed and because of this some fifteen trees that had been spotted became abandoned. Because of these abandoned trees and the fact that some of the trees that were treated were partially abandoned, it is difficult to determine the degree of control actually attained.

Treatment of infested trees was accomplished by the use of the following two methods: (1) fell-peel-burn and (2) application of a penetrating oil spray, orthodichlorobenzene (1 part) and diesel fuel (6 parts). With the latter method the trees are felled, cut into suitable lengths for rolling and then sprayed on all sides.

Total number of trees spotted		91
Total number of trees treated		76
Sprayed	71	
Burned	5	
Average DBH		19 inches
Man days		68.5

Trees per man day	1.11
Approx. Gals. of ortho used	98
Approx. gals. of diesel fuel used	551
Average number of gals. of spray per tree	9.14

Technical assistance was furnished by the Forest Insect Laboratory, Berkeley, California.

Costs

Total costs for the project for the fiscal year 1953, exclusive of contributed costs, were $1491.20. This is $19.66 per tree treated.

Recommendations

1. That the concept of winter control be abandoned and a policy of year-round insect control be followed. This has been more or less in effect on this project for the last year.

2. That an appraisal survey be made in the winter by the Forest Insect Laboratory to determine the number of currently infested and salvable abandoned trees, including both Jeffrey pine and Coulter pine, within the entire infestation area.

3. That the possibility of logging at least part of this area on a sanitation-salvage basis be looked into. Perhaps an appraisal survey could include data on the amount of high risk material within the stand.

4. That a study of past and present records concerning the activities of the California flatheaded borer, Melanophila californica Van Dyke be made and a new policy of control for this insect be established by the Forest Insect Laboratory.

Forest Insect Laboratory
Berkeley, California
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